

# Development of Pakal Forest Park as a Sustainable Edu-Ecotourism and Family Recreation Destination in Surabaya

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## Abstract

Urban green spaces play a critical role in ecological sustainability, public health, and social well-being, especially in rapidly urbanizing regions. This study examines Taman Hutan Pakal, an urban forest in West Surabaya, to explore its potential as a sustainable edu-ecotourism and family recreation destination from a management and innovation perspective. Data were collected through field observations, in-depth interviews with park managers, visitors, local communities, and urban planning experts, as well as document analysis. Thematic analysis identified four key insights. First, Taman Hutan Pakal possesses significant ecological and recreational potential. Second, existing challenges include insufficient family-oriented infrastructure, limited environmental education programs, and low visibility in public engagement. Third, opportunities exist through societal demand and supportive policies to enhance environmental literacy and healthy recreational practices. Fourth, strategic interventions such as branding as an Educational Urban Forest, implementing biodiversity-based environmental education, improving child-friendly facilities, and fostering multi-stakeholder collaboration enable value transformation, innovation in urban park management, and long-term sustainability. The findings highlight the importance of integrating ecological, social, and educational dimensions in urban green space management to generate community well-being and strategic value for regional development.

**Keywords:** Biodiversity, Edu-Ecotourism, Family Recreation, Urban Green Space.

## 1. Introduction

The city of Surabaya faces challenges in managing green open spaces (RTH) that are no longer limited to ecological and social aspects, but also encompass management dimensions, financing sustainability, and public value creation. In contemporary urban development discourse, RTH is understood as a public asset that requires a destination management approach and sustainable value creation, not merely a passive ecological space. Pakal Forest Park in Benowo District has significant ecological and social potential to be developed as an edu-ecotourism and family recreation destination, but its management is still dominated by physical approaches and basic maintenance. Limitations are evident in the lack of integrated structured environmental education programs, low involvement of communities and creative economy actors, and the absence of a destination management model capable of connecting ecological functions with long-term economic and social value.

Research by Bi et al. (2024); Cheng et al. (2024) show that the existence and quality of urban green spaces are closely related to the physical and mental health of communities through mechanisms of environmental quality improvement, social interaction, and human connection with nature. However, most studies on green spaces still position city parks as environmental or health variables, not as public destinations that require integrated



management strategies. Castañeda et al. (2024) affirms that green spaces have strong restorative capacity for human well-being through a One Health approach, but the research also shows limitations in translating ecological and health benefits into management models, education programs, or economic value creation mechanisms. These findings indicate a gap between evidence of green space benefits and city park management practices at the local level.

Pakal Forest Park in Benowo District, Surabaya, has significant ecological and social potential to be developed as an edu-ecotourism and family recreation destination. However, until now its management has focused on providing basic facilities and physical area maintenance. Z. Zhang et al. (2024) shows that park facilities do indeed affect visitor numbers and activity duration, but without clear management strategies, facility improvements alone are insufficient to ensure destination sustainability. Additionally, quality green space design has been proven to enhance restorative effects and visitor experience, which should serve as the basis for planning city park destinations oriented toward education and recreation.

In Indonesia, studies on city parks generally emphasize user-friendly design aspects, such as safety, accessibility, and play facilities, but rarely link them with destination management models, community involvement, and local creative economy development. Yet, the integration of green spaces, educational activities, and creative economy has the potential to make city parks spaces for learning, recreation, and community-based economic drivers. Therefore, this research positions Pakal Forest Park as a public destination that requires destination management and collaborative governance approaches, with the aim of formulating development strategies capable of integrating ecological functions, environmental education, family recreation, and creative economy sustainably.

From the perspective of creative economy and destination management, green open spaces are viewed not only as environmental assets, but also as platforms for experience-based value creation (experience-based economy). Richards (2018) in creative tourism studies affirms that public spaces, including city parks and urban forests, can become venues for educational, cultural, and creative activities that encourage community involvement and local entrepreneurship. Studies in Tourism Management show that nature-based destinations in urban areas have the potential to be developed through education programs, creative events, and community-based activities that strengthen destination competitiveness while increasing local economic benefits. In line with this, Balabel & Alwetaishi (2021) emphasizes that the integration of green spaces with creative economy contributes to sustainable value creation through increased visits, micro-business opportunities, and strengthening of local identity, provided it is supported by clear destination management models and collaborative governance. Thus, the development of green spaces like Pakal Forest Park is relevant to examine within the framework of creative economy and public destination management, because the success of such spaces is determined not only by ecological quality, but also by their ability to create economic, social, and educational value simultaneously.

## 2. Literature Review

### 2.1. Concept of Green Open Space (RTH)

Green Open Space (*Ruang Terbuka Hijau* / RTH) in urban areas is non-building space that functions for ecological conservation, aesthetics, recreation, and microclimate regulation. RTH supports urban heat island mitigation, absorbs air pollutants, provides biodiversity habitat, and supports the physical and mental health of communities.

Numerous studies confirm the ecological and social functions of RTH, including its positive effects on air quality, temperature reduction, and improvement of psychological well-

being (Dzhambov et al., 2018; Kabisch et al., 2017). WHO through the WHO IRIS platform also states that urban green spaces are important components of healthy cities because they provide benefits through physical and psychosocial pathways, namely physical activity, social interaction, and mental relaxation. Based on various systematic studies, exposure to urban green spaces is negatively correlated with mortality (all-cause & cardiovascular), violence, and risk of chronic diseases. Green spaces are also positively related to attention, mood, and physical activity (Kabisch et al., 2021; Twohig-Bennett & Jones, 2018).

Access to and quality of green spaces have been proven to strengthen mental health (reducing stress and depression), increase physical activity, and reduce the risk of non-communicable diseases (NCDs) (Padmakumar & Patil, 2022). Green space biodiversity also enhances psychological restoration and nature connectedness, especially in green spaces with complex vegetation structure and high species diversity (Castañeda et al., 2024). Additionally, social cohesion is an important mechanism that mediates the relationship between green space quality and mental health. Accessibility, pedestrian path connectivity, and diversity of space functions are determining factors in this relationship.

## **2.2. Concept of Edu-Ecotourism or Eco-Edutourism**

Environmental education is a learning process aimed at increasing knowledge, awareness, attitudes, values, and skills of individuals and community groups so they can behave responsibly toward the environment. Environmental education does not only emphasize cognitive aspects, but also affective and psychomotor aspects, so that students not only understand environmental issues, but are also encouraged to actively participate in conservation and sustainable development efforts. Aswita (2018) explains that environmental education plays an important role in forming ecological awareness and encouraging sustainable lifestyles through contextual learning processes oriented toward direct experience.

Environmental education is multidisciplinary in nature as it integrates ecological, social, economic, and cultural aspects in understanding environmental problems. This approach emphasizes the reciprocal relationship between humans and the environment, as well as the impact of human activities on ecosystem balance. In practice, environmental education can be implemented through formal, non-formal, and informal education, including through outdoor education activities that provide real experiences to students (Nasution et al., 2025). Additionally, environmental education also functions as an instrument of behavior change. Through increased understanding of global and local environmental issues, individuals are expected to be able to make more responsible decisions in daily life. Environmental education thus becomes an important foundation in supporting sustainable development agendas and natural resource conservation.

Ecotourism is a form of environmentally responsible tourism that emphasizes nature conservation, local community welfare, and educational tourism experiences. Ecotourism has developed as a response to the negative impacts of mass tourism and emphasizes the importance of balance between tourism activities, environmental conservation, and socio-economic benefits for local communities. In this concept, tourists play roles not only as consumers, but also as learners and conservation partners (Sutisno & Afendi, 2018).

The main principles of ecotourism include conservation of natural and cultural resources, active participation of local communities, environmental education for tourists, and sustainable destination management. Andriani & Pitana (2011) affirms that environmental education is a key element that distinguishes ecotourism from other forms of nature tourism. Thus, the success of ecotourism is measured not only by the number of tourist visits, but also by the extent to which tourism activities contribute to environmental conservation and improvement of local community quality of life. In the context of sustainable development,

ecotourism is viewed as a strategy capable of bridging economic interests and conservation. Various studies show that good ecotourism management can encourage biodiversity protection, strengthen the local economy, and increase environmental awareness among tourists (Xu et al., 2023).

Edu-Ecotourism or Eco-Edutourism is an integrative concept that combines principles of environmental education and ecotourism. This concept views nature tourism activities as systematic and planned learning tools, not merely recreational activities. Edu-ecotourism emphasizes direct learning experiences in nature to increase understanding, awareness, and pro-environmental attitudes of tourists and local communities (Satriawati, 2025).

In its implementation, edu-ecotourism encourages the development of tourism programs that contain elements of environmental interpretation, conservation education, and local wisdom values. Through this approach, tourism destinations function as ecological learning laboratories capable of shaping responsible behavior toward the environment. Research shows that direct experiences at edu-ecotourism destinations can have positive impacts on changes in tourists' environmental attitudes and behavior. Edu-ecotourism also contributes to sustainable development by strengthening the role of local communities as main actors in tourism management. Community involvement in providing tourism services and environmental education not only increases economic benefits, but also fosters a sense of ownership and responsibility for natural resource sustainability.

### **2.3. Family-Friendly or Child-Friendly Design**

Child-friendly design is an approach to designing built environments that positions children as primary users by considering their physical, cognitive, social, and emotional developmental needs. This concept is based on fulfilling children's rights as stated in the Convention on the Rights of the Child, which affirms that children have the right to safe, healthy environments that support optimal growth and development. UNICEF emphasizes that child-friendly environments must guarantee aspects of safety, health, comfort, accessibility, and enable children to learn, play, and interact freely and meaningfully. Thus, child-friendly design is oriented not only toward aesthetic aspects, but also toward space functions that are responsive to children's body scale, behavior, and activity patterns (UNICEF, 2020).

The main principles in child-friendly design include physical safety, sensory comfort, support for exploration and creativity, and inclusivity. Safety is realized through selection of non-hazardous materials, avoidance of sharp corners, and clear circulation arrangements, while comfort includes natural lighting, good ventilation, and scale of space and furniture appropriate to children's anthropometry. Additionally, child-friendly design must also be able to stimulate motor and social development through varied and flexible play spaces. Research in architecture and interior design shows that environments designed according to child-friendly principles positively affect children's behavior, independence, and psychological well-being, both in educational environments and public spaces and family residences (Khairuni et al., 2025; Nisa & Ismayyah, 2024).

### **2.4. City Park Quality Indicators**

City parks are part of public green open spaces that have a strategic role in improving the quality of life of urban communities. Conceptually, city parks function not only as aesthetic elements of cities, but also as social, recreational, and educational spaces accessible to all levels of society. Widati (2024) explains that city parks are green open spaces in urban areas designed to support social activities, recreation, sports, and provide ecological benefits such as improvement of air quality and microclimate. Thus, city parks become important

infrastructure in sustainable urban planning oriented toward social and environmental welfare.

In the context of educational functions, city parks serve as informal learning spaces that enable the community, especially children and families, to gain knowledge through direct interaction with the environment. City parks can become media for environmental education, introduction to biodiversity, and means of forming ecological awareness from an early age. Research shows that the presence of educational elements such as information boards, thematic gardens, and nature-based learning activities can enhance park functions as alternative learning spaces outside formal schools. This affirms that city parks have great potential as inclusive and contextual public education venues.

Besides educational functions, city parks also have a main role as family recreation spaces. Recreation in city parks includes physical and non-physical activities aimed at relaxation, entertainment, and improvement of mental and social health. Shadrina et al. (2024) states that public spaces such as city parks enable healthy social interaction, strengthen social cohesion, and provide meaningful recreational experiences for various age groups. For families, city parks become safe shared spaces for playing, exercising, and building quality relationships among family members.

Important indicators to consider when assessing and designing park development for educational and family recreation functions include: 1) Physical facilities, safe paths, nature-based playgrounds, rest areas, family-friendly toilets. 2) Educational facilities, interpretation boards, environmental information centers, school visit programs. 3) Accessibility, transportation connectivity, parking, pedestrian and disabled access. 4) Safety & Cleanliness, waste management systems, lighting, and patrols. Lastly, 5) Community involvement, volunteer programs, local MSMEs, engagement.

### 3. Methods

#### 3.1. Research Type and Approach

This research uses a descriptive qualitative approach with case study method. The qualitative approach was chosen because the research focus is to understand the potential, challenges, and development strategies of Pakal Forest Park from the perspective of various stakeholders (Creswell & Poth, 2016). The case study method is used to explore in-depth information about specific phenomena in one particular location, namely Pakal Forest Park, Benowo, Surabaya.

The qualitative data obtained is analyzed thematically to identify main strategic issues, which are then synthesized into a SWOT analysis framework. SWOT results are further developed into strategic management priorities through issue grouping based on urgency level and impact on sustainability of educational, family recreation, and environmental conservation functions. Thus, this method is explicitly designed to produce strategic recommendations and managerial implications that can be used by park managers and policy makers.

#### 3.2. Research Subjects and Informants

Research informants were determined using purposive sampling technique, namely selection of respondents considered to have relevance and knowledge related to the research (Sugiyono, 2019). Main informants include:

- 1) Pakal Forest Park managers (government or related units).
- 2) Surrounding communities who interact directly with the park.

- 3) Park visitors (families, students, communities).
- 4) Experts/academics in urban planning, ecotourism, or environment fields.

### 3.3. Data Collection Techniques

Research data was collected through three main techniques to obtain comprehensive and complementary understanding. Participatory observation was conducted by directly observing the physical condition of Pakal Forest Park, availability and quality of facilities, visitor activity patterns, and various potentials and obstacles emerging in the field, so researchers could capture real dynamics at the location and social and environmental contexts affecting park utilization (Spradley, 2016).

In-depth interviews were conducted semi-structurally with park managers, surrounding communities, and visitors to explore information related to their needs, perceptions, experiences, and expectations regarding Pakal Forest Park management and development. These interviews provided space for informants to convey views reflectively and in-depth, helping researchers understand meanings and interests attached to the park from various stakeholder perspectives (Brinkmann & Kvale, 2018).

Documentation was used to complement and verify data from observation and interview results through collection of official documents, field photos, and secondary data sourced from government reports, related regulations, and news articles about Pakal Forest Park development, thus functioning as data triangulation material to increase validity and credibility of research findings.

### 3.4. Data Analysis Techniques

Data analysis was conducted through three main stages: data reduction, data presentation, and conclusion drawing. Qualitative findings from interviews and observations were coded to identify strategic themes reflecting strengths, weaknesses, opportunities, and threats in Pakal Forest Park management. The SWOT framework was used as an analytical tool, not merely descriptive, to systematize empirical findings into strategic decision-making structures (Helms & Nixon, 2010).

The use of SWOT in this research has academic justification because the framework allows integration between internal organizational factors of managers and external factors of policy and socio-ecological environment. However, to avoid conventional SWOT use, analysis results were developed into priority management strategy directions by considering local context, resource limitations, and multi-party collaboration potential. This approach positions SWOT as part of the analytical process toward strategy formulation, not as the final goal of analysis.

To ensure data validity, triangulation techniques were used, including source triangulation (managers, community, visitors), method triangulation (observation, interviews, documentation), and member checking with informants to validate data interpretation (Lincoln & Guba, 1985).

## 4. Results and Discussion

### 4.1. Research Results

#### 4.1.1. Existing Condition of Pakal Forest Park

Pakal Forest Park Surabaya (Figure 1) is located in Pakal Sub-district, Benowo District, West Surabaya, with an area of approximately 6.85 hectares mostly consisting of urban forest areas, planted with various types of plants including Acacia, Sea Hibiscus, Shrimp Pine, Rain

Tree, Coral Tree, Teak, Senna, Sterculia, Mahogany, Candlenut, Bauhinia, Sappanwood, Mangrove, Artocarpus, Sapodilla, Mango, Coconut, and Cerme. Based on observation results, this park has pedestrian paths, open areas for light exercise, and fairly dense tree vegetation. However, supporting facilities such as children’s play areas, seating, educational information boards, and canteens are still very limited.

Location-wise, Pakal Forest Park is quite strategic because it is located near residential areas, schools, and main routes to Gresik and Lamongan. This condition is an opportunity for the park to be developed as an alternative family recreation destination and environmental education space in West Surabaya.



**Figure 1. Existing Condition of Pakal Forest Park Surabaya**

Referring to Figure 1, the existing condition of Pakal Forest Park Surabaya is visible as an urban forest area that includes areas of natural vegetation, water bodies, and area access, which overall represents ecological functions and green open space in Surabaya urban area.

Analysis results show that Pakal Forest Park has several main potentials that can be utilized for strategic development. Ecologically, this park has local biodiversity, including various types of endemic trees and birds, which can serve as environmental education media for visitors and surrounding schools. Additionally, the park has good accessibility, easily reached by both private vehicles and public transportation, and its location close to residential areas and schools strengthens its opportunity as a family recreation destination. High interest of West Surabaya communities in recreation spaces that are affordable, healthy, and child-friendly also becomes social potential that can be utilized, while city government policy support regarding improvement of green open spaces and educational tourism affirms the sustainability of park development efforts.



**Figure 2 Managers, Facilities, and Merchant Activities at Pakal Forest Park Surabaya**

In Figure 2, the presence of area managers, supporting facilities, and merchant activities at Pakal Forest Park Surabaya is shown, reflecting interaction between green open space management and economic activities of surrounding communities. On the other hand, analysis results found several problems that need to be addressed for the park to function optimally. Supporting facilities are currently minimal and poorly maintained, park promotion has not been optimal so visit levels are relatively low, environmental education programs are not yet structured, and management coordination among parties including government, communities, and society is still weak. This condition shows the need for development strategies that not only add facilities and improve promotion, but also build multi-party collaboration to increase management effectiveness and sustainable park potential utilization.

#### 4.1.2. SWOT Analysis Results of Pakal Forest Park Development

Research results show that Pakal Forest Park has great potential as an environmental education and family recreation destination. SWOT analysis affirms that: Strengths include biodiversity, strategic location, and easy accessibility; Weaknesses include limited facilities, weak promotion, and unstructured education programs; Opportunities include city government policy support, increasing educational tourism trends, and West Surabaya community needs for family recreation spaces; and Threats include competition with other destinations, risk of land conversion, and low community awareness. This SWOT analysis can be further illustrated in Table 1 Matrix below:

**Table 1. SWOT Matrix of Pakal Forest Park Development**

Internal Factors	External Factors	Strategy
<p>Strengths (S) :</p> <ul style="list-style-type: none"> <li>a. Local biodiversity</li> <li>b. Strategic location</li> <li>c. Easy access</li> <li>d. High community needs</li> </ul>	<p>Opportunities (O):</p> <ul style="list-style-type: none"> <li>a. Government policy support</li> <li>b. Educational tourism trends</li> <li>c. Family recreation interest</li> </ul>	<p>S-O Strategy:</p> <p>Mengembangkan program edukasi lingkungan berbasis biodiversitas lokal melalui sekolah alam, papan interpretasi, dan workshop daur ulang.</p>
<p>Weaknesses (W) :</p> <ul style="list-style-type: none"> <li>a. Limited facilities</li> <li>b. Weak promotion</li> <li>c. No education programs</li> <li>d. Weak management coordination</li> </ul>	<p>Opportunities (O) :</p> <ul style="list-style-type: none"> <li>a. Policy support</li> <li>b. Educational tourism trends</li> <li>c. Community needs</li> </ul>	<p>W-O Strategy:</p> <p>Improve family-friendly recreation facilities (playground, bike paths, picnic areas) to meet community needs and healthy recreation trends.</p>
<p>Strengths (S):</p> <ul style="list-style-type: none"> <li>a. Biodiversity</li> <li>b. Strategic location</li> <li>c. Good accessibility</li> </ul>	<p>Threats (T) :</p> <ul style="list-style-type: none"> <li>a. Destination competition</li> <li>b. Potential land conversion</li> <li>c. Low community awareness</li> </ul>	<p>S-T Strategy:</p> <p>Brand park as “Educational Urban Forest of West Surabaya” through digital promotion and integration with other tourism destinations.</p>
<p>Weaknesses (W) :</p> <ul style="list-style-type: none"> <li>a. Limited facilities</li> <li>b. Weak promotion</li> <li>c. Unstructured education</li> </ul>	<p>Threats (T):</p> <ul style="list-style-type: none"> <li>a. Competition</li> <li>b. Land conversion</li> <li>c. Low community awareness</li> </ul>	<p>W-T Strategy:</p> <p>Build multi-party collaboration (government, community, schools, CSR) to overcome facility, maintenance, and promotion limitations.</p>

Based on analysis results, Pakal Forest Park development can be elaborated through SWOT approach translated into more measurable management strategies. From the strengths perspective, the park has local biodiversity, strategic location, and easily accessible access, supported by high community needs for recreation and environmental education spaces. Opportunities that can be utilized include government policy support, increasing educational tourism trends, and community interest in family recreation. The recommended strategy to utilize this strength in line with external opportunities (S-O) is to develop biodiversity-based environmental education programs through nature schools, interpretation boards, and recycling workshops, so the park's ecological and educational potential can be maximized.

On the weaknesses side, the park faces facility limitations, weak promotion, unstructured education programs, and still low inter-party management coordination. With the same opportunities as mentioned earlier, W-O strategy is directed at improving family-friendly recreation facilities, including playground construction, bike paths, and picnic areas, to meet community needs and adjust to healthy recreation trends.

Additionally, internal strengths need to be utilized to face external threats, such as competition from other destinations, potential land conversion, and low community awareness. The proposed S-T strategy is to brand the park as "Educational Urban Forest of West Surabaya" through digital promotion and integration with other tourism destinations, so park identity becomes better known and can compete effectively. Meanwhile, existing internal weaknesses need to be addressed to face the same threats, so W-T strategy emphasizes building multi-party collaboration between government, community, schools, and private sector through CSR programs, to overcome facility, maintenance, and promotion limitations and ensure sustainable park management. Thus, this SWOT analysis not only describes existing conditions, but is also translated into concrete, collaborative, and measurable development strategies, which can serve as basis for managers and stakeholders in optimizing Pakal Forest Park's educational and recreational functions.

## 4.2. Discussion

Pakal Forest Park development can be placed within the framework of public business model transformation based on creative economy and digital ecosystem. Urban green open spaces function not only as ecological infrastructure, but also as service entities that have potential to create economic, social, and environmental value simultaneously through service design, digital innovation, and collaborative management. This approach affirms that public spaces have strategic roles in service systems oriented toward sustainable value creation (Buil et al., 2021).

From the sustainable value proposition perspective, Pakal Forest Park has capacity to provide nature-based educational experiences, family recreation, and space for local creative economic activities. However, this capacity has not been systematically formulated in form of service design and digital-based business models. This condition shows that the main constraint to park development lies in managerial aspects and business model innovation, not in physical resource limitations (Firdaus & Utomo, 2022; Setiowati & Koestoer, 2024).

SWOT analysis indicates that service ecosystem and digital business dynamics at Pakal Forest Park have not been optimally integrated. Value creation depends on interaction among stakeholders, including government as managers, local communities as co-creators, MSMEs as value providers, and visitors as active users. Weak integration among stakeholders hinders formation of platform-based business models capable of facilitating sustainable exchange of value, information, and experiences.

Park performance is also affected by unimplemented digital transformation in service design. Unavailability of digital infrastructure for environmental interpretation, promotion,

and user interaction limits experience quality and service reach. Utilization of digital technology such as QR codes, curated social media, and online educational content has been proven to increase user engagement, extend visit duration, and strengthen attachment to experience-based destinations (Zhang et al., 2024).

The formulated development strategy reflects integration of digital economy and sustainability principles through open and collaborative business model innovation, digital branding strengthening, provision of family-friendly facilities, biodiversity-based environmental education, and multi-party partnerships. This approach aligns with contemporary research findings affirming that digital transformation opens opportunities for new economic value creation while supporting sustainability agendas through use of digital technology responsive to social and environmental demands.

In the digital economy context, digitalization not only becomes a tool to increase operational efficiency and market access but also becomes an important mechanism in implementing green economy principles, namely integration of environmental aspects in economic activities through reduction of environmental impacts and increased stakeholder awareness of sustainability issues. Research states that digital innovation based on green economy principles can strengthen business competitiveness, expand market access through e-commerce and digital platforms, and increase resource efficiency thereby strengthening business strategies in facing market volatility and economic uncertainty (Martínez-Peláez et al., 2023).

Integration of digitalization and sustainability in business models also appears as answer to business transformation challenges in the digital era. Puspita & Purnomo (2025) shows that digital transformation combining sustainability principles enables businesses to change internal processes, utilize digital platforms, and expand relations with various stakeholders through increasingly extensive digital networks. This transformation includes development of operational models that not only rely on digital technology efficiency but also consider social and environmental impacts thereby creating long-term value and holistic competitive advantage. This is consistent with study results conducted by Harto et al. (2023) showing that holistic approach in digital transformation contributes to increased operational efficiency, cost reduction, and business value-added creation amid sustainability needs pressure.

Digital branding strengthening in development strategy affirms shift in traditional marketing orientation toward marketing that utilizes digital channels as means to convey sustainability value to consumers. Use of measured and authentic digital strategies can increase consumer engagement and strengthen brand position in markets increasingly aware of environmental issues (Ratnawita et al., 2025). This approach not only expands product or service visibility but also shapes consumer perception of organizational commitment to environmental values thereby strengthening social legitimacy and market attractiveness in competitive digital economy.

Multi-party partnerships in sustainable business models are important elements in building value ecosystems responsive to complexity of social and environmental challenges. Sustainable business strategy literature underlines that cross-sector collaboration, including public sector, private sector, local communities, and non-governmental organizations, encourages exchange of knowledge, resources, and technology capabilities needed to implement effective sustainable business models. Through this collaborative network, sustainability approach that integrates social, economic, and environmental dimensions can be strengthened thereby creating broader and more resilient impacts in digital economy context. Triatmojo & Astuti (2025) examining relationship between digitalization and green

economy practices affirms that digital economic transformation has potential to simultaneously increase environmental awareness and economic productivity thereby strengthening green economic growth in macro context.

Development strategy of business models combining digital innovation elements and sustainability principles can be viewed as manifestation of green business model concept in digital economy. This approach shows that digital technology not only facilitates efficiency and market expansion but also strengthens social and environmental responsibility thereby providing balanced contribution to creation of economic, social, and ecological value within sustainable development framework that becomes main focus of economics and business literature in current digital transformation era (Trissentianto & Mujito, 2025). Multi-party collaboration in park management represents collaborative governance practice in digital ecosystem, with manager role as coordinator and value orchestrator. This governance model enables shared value creation, increased adaptive capacity, and sustainability of nature-based destination management.

From creative economy and managerial implications perspective, Pakal Forest Park development as digital-based edu-ecotourism destination has potential to drive creative entrepreneurship growth, including experience-based MSMEs, digital educational content production, creative event organizing, and platform-based tourism services. Thus, city parks function as innovation spaces and local creative economy incubators, not merely passive recreation spaces. Implementation of adaptive management approach integrating digital technology, stakeholder collaboration, and sustainable value creation becomes main prerequisite to optimize this potential. Conceptually, Pakal Forest Park development demands paradigm shift from facility-based management approach toward business model-based approach, digital service design, and ecosystem orchestration. This shift strengthens study contribution to creative economy development, digital business management, and digital transformation of public spaces, while providing analytical basis for policy formulation and management strategies for environment-based destinations in urban areas.

## 5. Conclusion

This research concludes that Pakal Forest Park has great potential to be developed as a hybrid destination that combines ecological, educational, and recreational functions. The park's existing condition shows strength in biodiversity aspects and strategic easily accessible location, but there are still weaknesses in form of limited facilities, promotion that has not been optimal, and absence of structured environmental education programs. SWOT analysis shows opportunities in form of government policy support, increasing educational tourism trends, and high needs of West Surabaya communities for healthy recreation spaces, while threats come from competition with other destinations, potential land conversion, and low community awareness. Based on combination of these factors, appropriate development strategies include development of local biodiversity-based environmental education programs, addition of family-friendly recreation facilities, strengthening of digital promotion and branding as "Educational Urban Forest of West Surabaya," and multi-party collaboration to ensure sustainable park management. With this strategy, Pakal Forest Park can become a sustainable destination that not only maintains city ecological functions, but also increases environmental literacy, provides social interaction spaces, and strengthens West Surabaya identity.

Based on research results, there are several practical suggestions that can serve as reference. For Surabaya City Government, there needs to be policy strengthening and budget

support directed toward facility improvement, educational infrastructure development, and digital-based promotion so park becomes more widely known. For park managers, it is recommended to initiate innovative programs such as school visits, environmental workshops, green festivals, and community activities that can attract community interest while growing awareness of conservation importance. Local communities and communities are expected to play active roles in maintaining cleanliness, participating in activity programs, and viewing park as shared asset that needs to be maintained. Meanwhile, for academics and subsequent researchers, research can be expanded to creative economy aspects, such as MSME potential around park, or social aspects such as impact of park development on community interaction patterns, so contribution picture of Pakal Forest Park becomes more comprehensive.

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